



Research Journal of Business and Management

Year: 2017 Volume: 4 Issue: 2



INVESTIGATION OF CROWDSOURCING CONCEPT BY OPEN INNOVATION PERSPECTIVE: APPLICATION EXAMPLES

DOI: 10.17261/Pressacademia.2017.473

RJBM- V.4-ISS.2-2017(10)-p.177-184

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To cite this document

Uslu, Y.D. and Y. Hancioglu, (2017). Investigation of crowdsourcing concept by open innovation perspective: application examples. Research Journal of Business and Management (RJBM), V.4, Iss.2, p.177-184.

Permament link to this document: <http://doi.org/10.17261/Pressacademia.2017.473>

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ABSTRACT

Purpose- The aim of the work is to define the concepts of open innovation and crowdsourcing that the changing competition concept brings and to emphasize its importance for the enterprises. Then, we examine the examples of businesses and practices that benefit from the crowdsourcing approach with open innovation perspective in Turkey.

Methodology- In this study, descriptive method was used for non-experimental research methods. The crowdsourcing practices of the enterprises were determined and the current situation was assessed.

Findings- Many enterprises are using the “crowdsourcing” approach to increase intensity of innovation and compete. acikinovasyon.com, which can be called the biggest innovation network of Turkey, provides the participation of masses in the innovation processes of enterprises for certain awards (money or gift sets). Innovation studies and innovation demands of enterprises that need ideas and projects of the crowd are examined with the help of the table below. While some of these studies are finished, some are active.

Conclusion- It seems that the approach has been used more and more by enterprises in Turkey in recent years. Businesses can get the results they want cheaper by taking advantage of the crowd outside the enterprise to solve new product ideas or a problem. Open innovation and crowdsourcing provide positive outputs to enterprises when appropriately designed.

Keywords: Open innovation, crowdsourcing, enterprise application examples, Turkey

JEL Codes: M10, O30

1. INTRODUCTION

The most significant impact of globalization on the world economy is to move competition to the global level. Countries and enterprises have more interaction with each other than in the past, bringing about changes in globalization, a process in which businesses operate not only in national markets but also in the world market. When we look at the economic, political and military dynamics of the 21st century, considering the impact of globalization, it seems that the new paradigm of competition is based on innovation.

Innovation is the healthiest and ongoing field in which organizations and societies in ever-changing and evolving lifestyles can achieve mutual excellence. According to Pierce & Delbecq (1977: p.27), innovation is the initiation, adoption and implementation of new ideas or activities in the organizational framework. Flynn, Dooley, O’Sullivan & Cormican (2003: p.4), innovation, the implementation of a wide range of ideas and it is a process to be transformed into an opportunity for new ideas. Organizations are embracing innovation to follow technological and managerial changes in the information, to adapt competition in the industry, to meet the expectations of those involved and increasing the desire and ability of senior executives to acquire different competencies (Damanpour, Walker & Avellaneda, 2009: p.650).

The focus of enterprises' innovation operations is traditionally closed and is recognized by large R&D departments of enterprises and an increasing number of international patents. Now, on the contrary, there is pressure for opening of institutional innovation processes, as external actors are becoming an increasingly important part of enterprises for ability to innovate. This development was called open innovation by Chesbrough (2003). This development has progressed gradually and attracts even more interest among enterprises.

"Closed innovation" approach which reflects innovation that is done only large corporations and behind closed doors leaves its place to the concept of "open innovation". These two innovation approach can be explained through chess-poker metaphor. In chess, all stones and playground are determined. New information is not included in game from outside. It is a closed system and with these features similar to closed innovation approach. In poker, the game is maintained by changing and opening cards. By constantly exchanging information with competitors, resources available are persistently changing. This new information is very important for players. The poker game with its peculiar features can be likened to open innovation approach. The pursuit of open innovation that enterprises benefit from technology brings us with concept of "crowdsourcing". The concept of crowdsourcing consists of combination of crowd and outsourcing words. Crowdsourcing means that crowd is working towards subject and solution that is reached as a result of this work. When the concept is examined in terms of enterprises, it is seen that "it is not work to be done for its own employees but crowd for certain reward and get advice and solutions on the job".

Crowdsourcing can be defined as the creation of a function that is traditionally performed by employees and outsourced the crowd in the form of "open call". The crowd is an undefined (and often board) network of people (Howe, 2008). Crowdsourcing and open innovation as well as paradigms such as swarm intelligence, peer production, Wikinomics have become a rapid development in recent years (Bücheler & Sieg, 2011: p.327). The reason for emergence and development of these new paradigms is that enterprises do not want to get back on the competition in a changing competitive environment (Marjanovic, Fry & Chataway, 2012; Majchrzak & Malhotra, 2013).

The aim of the work is to define the concepts of open innovation and crowdsourcing that the changing competition concept brings and to emphasize its importance for the enterprises. Then, we examine the examples of businesses and practices that benefit from the crowdsourcing approach with open innovation perspective in Turkey. It seems that the approach has been used more and more by enterprises in Turkey in recent years. Businesses can get the results they want cheaper by taking advantage of the crowd outside the enterprise to solve new product ideas or a problem. In the second part of the study, concepts of open innovation and crowdsourcing are explained. In the third part, business application are included in "acikinovasyon.com", in Turkey "innocentive.com" a similar established in 2009. In the last part, the general evaluation of the work has been done.

2. OPEN INNOVATION AND CROWDSOURCING

Crowdsourcing and open innovation are two terms produced in the last thirteen years that affect various research areas.

The nature of open innovation is the creation and application of knowledge, because knowledge capacity is the key factor for the implementation of open innovation (Zhang, Huang & Hao, 2010: p.196). Prerequisites must be prepared in order to support the creative capacity of enterprise. Open innovation provides the environment for providing external information, which is important for these prerequisites. External knowledge, which is often emphasized in the concept of open innovation, will surely not contribute to innovation and development alone. For effective use of knowledge, new and development-friendly organizational climate should be developed. Enterprises that implement open innovation will need to be semi-permeable so that closed organizational boundaries can be transferred into and out of the business (Chiarini, Chiesa & Frattini, 2011: p.224).

As explained by Thrift (2006), innovation process, thinking and collaboration become more open to new product development. Open innovation approach plays an important role in innovation process. The concept of open innovation (Chesbrough, 2003) is a growing area of research and company is using it in increasing quantities. So far, most of the current literature explain to phenomenon and its logic and more recently to define competent business strategies for open innovation (Antikainen, Mäkipää and Ahonen, 2009: 101). There are many definitions of open innovation in the literature. Some of which are examined below.

- "Open Innovation is a paradigm that assumes that enterprises can and should use external ideas as well as internal ideas, and internal and external paths to market, as the enterprises look to advance their technology. Open Innovation combines internal and external ideas into architectures and systems whose requirements are defined by a business model" (Chesbrough, 2003).
- Open innovation is a broad concept that exploits outside technology sources and innovation to drive internal growth (Docherty, 2006).

- Open innovation is the input and output of information intended to speed up the innovation within enterprise and to expand market for use of innovation outside (Chersbrough, 2006).

Open innovation approach provides various benefits to enterprises (Docherty, 2006: 14). These can be listed as follows.

- “Ability to leverage R&D developed on someone else’s budget,
- Extended reach and capability for new ideas and technologies,
- Opportunity to refocus some internal resources on finding, screening, and managing implementation (important not to position as a threat to internal resources),
- Improved payback on internal R&D through sale or license of otherwise unused intellectual property,
- A greater sense of urgency for internal groups to act on ideas or technology (use it or lose it),
- Ability to conduct strategic experiments at lower levels of risk and resources, with the opportunity to extend core business and create new sources of growth,
- Over time, an opportunity to create a more innovative culture, from the ‘outside in’ through continued exposure and relationships with external innovators.”

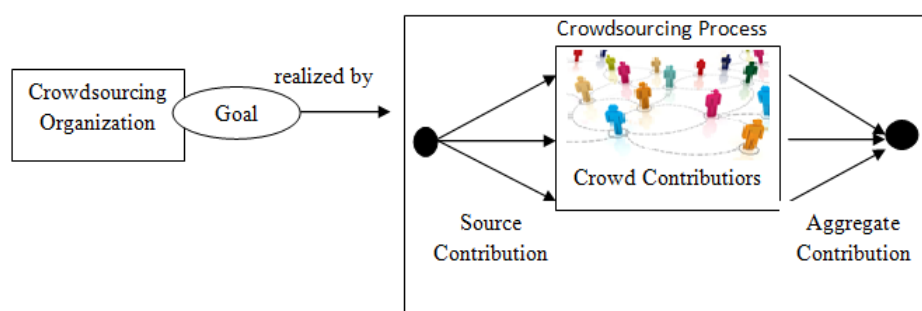
Although the era of open innovation has began for many enterprises, there is no clear information about when and how the concept will be exactly what the mechanism are inside and outside organization (Enkel, Gassman & Chesbrough, 2009: p.312).

Open innovation; Although it has been used extensively in technology enterprises during the emerging periods, It began to be applied and widespread in other sectors over time. Along with the development of the concept; It has become a process that has to go beyond just transferring information and applied systematically. The innovation process can be examined in three basic stages (Kaynak & Maden, 2012);

- Concept Stage: It is at this stage that strategies are set in order to form an organization climate suitable for open innovation, encouraging the members of the organization and maintaining research activities. This stage; It is the nature of preliminary study and preparation with the establishment of the infrastructure of open innovation for providing information flow to the inside and outside of the enterprise.
- Development Stage: At this stage, implementation tools are created, qualifications are defined and projects are developed. On the basis of the infrastructure created in the previous stage by creating mechanisms of organizational climate and is ready for application.
- Application Stage: At this stage, the plans generated in accordance with the system begins to operate, speed gains in the exchange of information between the enterprise and its stakeholders. Implementation and control mechanisms with the execution of innovation activities is provided to step outside the boundaries of the enterprise.

So far, both in media and on internet, crowdsourcing has been recognized as an innovate form of value creation (Hammon & Hippner, 2012: p.163). Crowdsourcing is term roof for the various approaches that enter the potential of a large and open human population. It is not possible to systematically understand the processes used to called from crowd and collect contributions as of now (Geiger et al., 2011: 1).

Figure 1: Prototypical Crowdsourcing Approach



Source: Geiger et al., 2011: 2.

Figure 1 shows a prototypical crowdsourcing approach. Crowdsourcing organization is based on a particular crowdsourcing process to achieve a clear goal. Two examples for crowdsourcing organizations are Treadless which is based on crowdsourcing to create marketable t-shirt designs and Amazon which is based on crowdsourcing to make comprehensive reviews of its products. The target is realized by one or several kinds of contribution sources and collecting process of the crowd (Crowdsourcing Process). In the first example, the crowd is asked to contribute by writing new critiques or by interpreting and voting on existing ones. In the second example, the crowd is wanted to vote for existing t-shirts and asked to create new t-shirt designs (Geiger et al., 2011: 1-2).

There are many definitions of crowdsourcing in the literature. Some of which are examined below.

- Crowdsourcing is the use of an internet-scale community for an outsourced task (Yang, Adamic & Ackerman, 2008).
- Crowdsourcing is used for a variety of different applications (problem solving, idea generation, product design, etc.) (Geiger et al., 2011: 2).
- Crowdsourcing is outsourcing of potentially large and unknown population in the form of open call, in the process of generating ideas (Poetz & Schreier, 2012).
- "Crowdsourcing is the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call" (Howe, 2008).
- Crowdsourcing is defined as "the act of outsourcing tasks originally performed inside an organization, or assigned externally in form of a business relationship, to an undefinably large, heterogeneous mass of potential actors". This is done through an open call over the Internet for free, value-added use. The incentive to participate can be Money and/or non-money in nature (Hammon & Hipper, 2012: p. 164).

Howe (2008) defines crowdsourcing applications in four basic categories: collective intelligence or crowd wisdom; user-generated content or crowd creation; crowd voting and crowdfunding. Crowdsourcing is a complex phenomenon and usually involves a combination of these categories; this can sometimes be difficult to distinguish.

As in every practice, crowdsourcing has both advantages and disadvantages (Hammon & Hipper, 2012: p.165).

Advantages of this concept;

- "Access to an enormous pool of competence and knowledge,
- Enhancement of the relationship between organization and customers,
- Increase of brand loyalty,
- Anticipation of consumers' needs,
- More innovative problem solutions,
- Highly modular and flexible processes and less time-to-market,
- Cost cutting potential."

Disadvantages of this concept;

- "Difficulties of calculating project costs,
- Necessity of precise project definition,
- Necessity of feedback loops for communication with participants,
- Uncertainty of crowd structure (e.g., regarding expertise),
- Risk of losing control (e.g., boycott or obstruction),
- Loss of internal know how,
- Consideration of legal framework conditions,
- Creation of a motivating incentive structure."

3. CROWDSOURCING APPLICATION EXAMPLES WITH OPEN INNOVATION PERSPECTIVE

The open innovation model is a more dynamic and less linear approach that enterprises can leverage both internal and external sources. In this approach, Innovation is based on the presence of information outside enterprise and it requires a enterprise unit to create new ideas and present them to market quickly using this information source (Yigit & Aras, 2012: p.489).

Mass customisation focuses on customisation of existing innovation, as open innovation paradigm suggests, the most rewarding customer involvement can be demonstrated in the idea-making process of new products (Chesbrough, 2003).

Procter and Gamble presented the concept of open innovation to organization and announced while Philips has a well-established open innovation environment, Simens has launched a major enterprise open innovation program in 2009 (Enkel et al., 2009: p.312). Peugeot has exchanged ideas with hundreds of designers from all over the world with its open design concept named "Open Design" in 2005 and has enjoyed these designs for exhibitions and new models in its automotive organizations (Kaynak & Maden, 2012).

Crowdsourcing is a relatively new concept involving many applications. This diversity causes blurring of crowdsourcing boundaries, which can be characterized by virtually and type of internet-based collaboration activity, such as co-creation or user innovations (Estelles-Arolas & Gonzalez-Ladron-de-Guevara, 2012). Enterprises are increasingly entering the "crowdsourcing" practice, making idea generating function outsourced to large contribution groups, often unknown or undefined.

A very famous example of crowdsourcing outcome is a distributed encyclopedia "Wikipedia" (Buecheler, Sieg, Fuchslin & Preifer, 2010: p.679). Another example is Innocentive. Innocentive was launched by a pharmaceutical firm that faced problem when designing a product. Despite the extensive R&D department, In developing a new product, there was no idea to solve a particular problem. A new match-making system was designed to communicate with people outside the existing experts for unresolved R&D problems. Everyone who could solve the problem was offered a monetary award. Scientists from all over the world competed for the prize. The winner received the award and company found a solution at a relatively cheap price (Steve 2006; Albros, Ramos and Hervas, 2008: 197; Frey, Lüthje and Haag, 2011).

One similar to innocentive.com in Turkey is "Açıkinovasyon" techno-initiative enterprise established in 2009. The aim of the enterprise is to create new technologies and applications that masses always play a leading role in, enabling enterprises to get more effective, faster and more efficient results in the innovation journey and to create value for them. acikinovasyon.com, which can be called the biggest innovation network of Turkey, provides the participation of masses in the innovation processes of enterprises for certain awards (money or gift sets). Innovation studies and innovation demands of enterprises that need ideas and projects of the crowd are examined with the help of table 1 below. While some of these studies are finished, some are active.

Table 1: Examples of Crowdsourcing Practice with Open Innovation Perspectives

Enterprise	Call Slogan	Innovation Type	Award
BKM	We are looking for different communication methods for telling the consumers and the economic benefits of card payment systems	Marketing innovation	3.000 TL
Sengüller	We are looking for innovative ideas that will lead to life in the retailing sector	Product/service innovation	iPhone5/iPad/iPod
Askaynak	What innovative methods can increase the market share of your new source machine?	Marketing innovation	5.000 TL
Yesilova Holding	How can we innovate in order to increase the usage rate of the portbag in vehicles?	Product/service innovation	4.500 TL
Mudurnu	We are looking for techniques that will increase the sales of our products such as burgers, nuggets, shinitzel and ready-made dumplings. How can we show these products hotter to the public?	Marketing innovation	1.500 TL
Kordsa Global	Except for nylon and polyester technical textile products rubber and rubber reinforcement applications which can be used?	Product/service innovation	2.000 TL
Borusan Logistic	In your opinion, what are the basic logistical issues and expectations of the customers? How solutions should be developed?	Marketing innovation	3.000 TL

Akcansa	People will get a new home or workplace, ready-mixed concrete brand awareness / consciousness, how we can increase?	Marketing innovation	Apple iPad 2
Bursa Gas	What can be done to encourage automatic payment of invoices?	Marketing innovation	3.500 TL
Bursa Gas	136.000 our subscriber how do we do gas owners?	Marketing innovation	5.500 TL
Borusan Logistic	In what sector, how can we produce a new service in a cooperative way?	Product/service innovation	3.000 TL
Milupa Aptamil	For babies between the ages of 1-3, which is the new product we need to get out?	Product/service innovation	2.000 TL
Yesilova Holding	Which functions make our aluminum products different and attractive?	Product/service innovation	iPad 2
DURAVIT	What innovative method can increase your market share?	Marketing innovation	3.250
Vakif Retirement	What innovative measures can we introduce "interest free retirement " investment fund to the target group?	Marketing innovation	10 gr gold
Michelin	How do we provide first choice of sales points?	Marketing innovation	1500 TL Teknosa gift cheque
TEB	What can we do to make our customers experience a different banking experience?	Product/service innovation	iPad 2
İpek Kagit	The use of products manufactured from recycled paper cleaning paper how can we increase awareness?	Marketing innovation	500 TL
Global Bilgi	Are we looking for innovative product and service ideas that can be sold on the phone?	Product/service innovation	İpad
MUDO	Are we looking for innovative solutions that can analyze customer behavior?	Research & Development (R&D)	2500 TL gift cheque
İpek Kagit	What consumer promotions can be made in cleaning paper products?	Marketing innovation	500 TL
Danone	Children grow up with your ideas! We want you to produce innovative ideas that will make you want to eat more fruit yoghurt between 3-7 years old boys and girls.	Marketing innovation	1000 TL
RAMSEY	You choose your accessory!	Product/service innovation	500 TL Ramsey gift cheque
Phonak	We are all looking for ideas to hear our voice! We are looking for innovative ideas that will guide people who have hearing problems to hearing aids by creating community awareness about the importance, consequences and consequences of hearing.	Marketing innovation	BlackBerry Curve
Sinangil Food	Imagine Win! Sinangil brand, which you think must provide its customers with new products or product groups.	Product/service innovation	1.000 TL
Ray Sigorta	Looking for opinion leaders to gain a different perspective on housing insurance!	Marketing innovation	Health insurance for 2.500 TL
Avea	Avea calls mobile application developers!	Product/service innovation	15.000 TL / İpad/ Blackberry
PO	How do we provide an additional product or service?	Product/service innovation	500 TL fuel oil cheque
AKSA Akrilik	What should be done to prevent the appearance of the water vapor coming from the drying fan blades?	R&D	1.000 TL/ 500 TL/ 500 TL
Agaoglu	We are looking for innovative ideas that will make life easier for our housing and office projects!	Product/service innovation	Weekend vacation for 2 people
Borusan	Creative ideas to increase automobiles sales in cities that are	Marketing	1.000 TL

Automotive Group	non the selling point!	innovation	
YATAS	Explore what is not for Enza furniture!	Marketing innovation	750 / 500/ 250 TL gift cheque
PO	We are looking for innovative campaign and implementation ideas for our loyalty program!	Marketing innovation	500 TL fuel oil cheque
TEKNOSA	Sector leader TEKNOSA is waiting for your environmental ideas for World Environment Day events!	Social innovation	250 TL gift cheque
NOKIA	We look forward to your creative mobile app ideas!	Product/service innovation	Nokia 5230 + Sennheiser HD407
Sinangil Food	We are looking for tasty ideas for Sinangil Taste Club!	Marketing innovation	500 TL
KİGILI	For your dad on father's day, how would you like the campaign?	Marketing innovation	250 TL

Source: www.acikinovasyon.com

4. CONCLUSION

Today, increasing and changing competition conditions are pushing enterprises to develop and differentiate. The increase in competition is accompanied by an increase in mobile work and the need for quick decision-making (Min Chiu, Liang & Turban, 2014). This situation drives enterprises to use new strategies. Increasing information needs of enterprises, it directs them to new resources. These sources include customers, competitors, universities and businesses in different sectors. Along with the search for new information, concepts of open innovation and crowdsourcing have begun to be addressed more.

When open innovation and crowdsourcing examples in the world and in Turkey are examined, it appears that many businesses in different sectors also benefit from external sources besides their internal resources to generate ideas. Open innovation and crowdsourcing provide positive outputs to enterprises when appropriately designed. In the age of new information and technology, individuals want to get more and more involved in ideas creation, product creation and problem solving processes. As such, when it is examined in the examples of acikinovasyon.com, it is seen that the individuals have contributed to these processes in the amount of a few prizes. Today, many of the individuals can not work in the jobs they desire. Those who have to work outside of their interests can devote most of their time outside their working hours to crowdsourcing activities. In this case, enterprises have access to many different perspectives, and the cost is very low. It is also possible to say that the enterprises benefit from these approaches in the examined examples. What will be the future of open innovation? asked by Huizing (2010), the answer is in fact a signal that this approach will remain important today and in the future. According to Huizing (2010), this concept will disappear within 10 years. But it is not that it will lose its usefulness but it will be fully integrated into innovation management practices. Which may suggest that the enterprise has nothing to learn from the rest of the world.

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